

## ABSTRACT

A blood viscosity measuring system and method that monitors the rising head of a column of fluid representing a living being's blood in-vivo to determine the blood viscosity over a range of shears. The system includes a capillary tube, at least a portion of which is located within the vascular system of the being, and a riser tube, having a liquid therein coupled to the capillary tube. A sensor and associated microprocessor are provided to determine the change in the height of the liquid in the riser tube at plural points along the length of the tube from which the viscosity is calculated. The system can be utilized to determine the deformability of the red blood cells of a living being's blood and/or the thixotropic properties of a living being's blood. Use of the system enables one to screen a material, e.g., a pharmaceutical, on a test subject, such as a living human being or laboratory animal, to determine the likely effect of the material in altering a parameter of the blood, e.g., viscosity, red blood cell deformability, or thixotropic nature, of a living, e.g., human, being to which the material will ultimately be administered.